

# Equivalence of energy and time

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Jöge FM. Equivalence of energy and time. J Pure Appl Math. 2023; 7(2):139

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## INTRODUCTION

A formula is developed that shows the equivalence of energy and time.

Derivation of a formula that describes the equivalence of energy and time.

A formula for calculation dark energy was developed under the title „Calculation of Dark Energy and Dark Matter“. It is:

$$E_d = h t_u / t_p^2$$

This formula is now expanded below to

$$E = \left( h/t_p^2 \right) \cdot t$$

Starting from  $E = h / t$  is obtained by substituting  $t_p$  for  $t$

$$E_p = h / t_p \text{ for the energy in the Planck time.}$$

For the energy per one second we get:

$$E_1 = h / t_p^2 \text{ and for energy in time } t \text{ } E = \left( h/t_p^2 \right) \cdot t$$

This is the general formula for the equivalence of energy and time.

If you use the age of the universe for the time  $t$ , you get the amount of dark energy [1-2].

## Definition of symbols used in formulas

$E$  = energy

$E_d$  = dark energy

$t$  = time

$t_u$  = age of the universe

$t_p$  = Planck time

$h$  = Planck quantum action

## REFERENCES

1. Jöge FM. Calculation of Dark Energy and Dark Matter. Int J Phy Ast. 2019:7(1); 01-07.
2. Kinseher Richard. Das Wesen von Zeit ist Energie, Verlag Books on Demand GmbH. 2016.

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Received: Mar 27, 2023, Manuscript No. puljпам-23-6309, Editor Assigned: Mar 28, 2023, Pre-QC No. puljпам-23-6309 (PQ), Reviewed: Mar 29, 2023, QC No. puljпам-23-6309 (Q), Revised: Mar 30, 2023, Manuscript No puljпам-23-6309 (R), Published: Mar 31, 2023, DOI:10.37532/2752-8081.23.7(2).139.

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